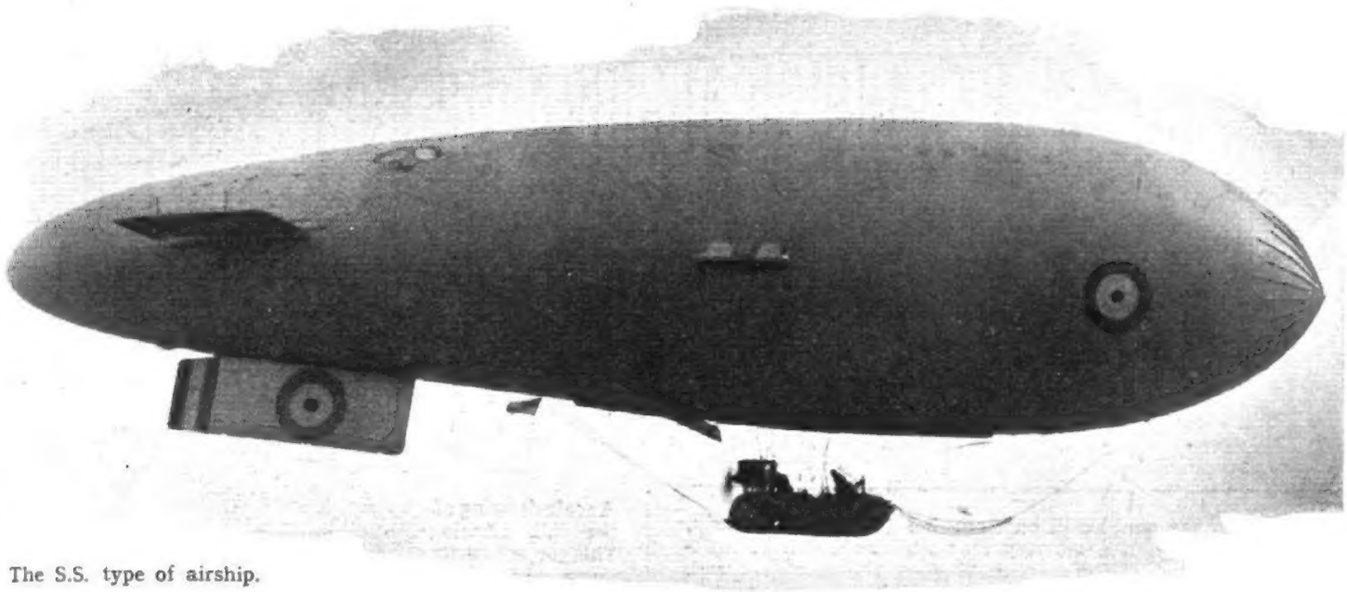

The S.S. type of airship.

BLIMP REDIVIVUS?

The Small Non-rigid Airship Suggested as a Factor in Anti-Aircraft Defence

By W. O. MANNING, F.R.Ae.S.

OWING to the immense amount of interest being taken in new types of aeroplanes, and the high performances that are now being obtained, it seems to be forgotten that there is such a thing as a small dirigible balloon, and that it has certain attributes which are beyond the reach of an aeroplane. They are attributes which possess considerable importance for certain military operations.

It is, perhaps, necessary to say that I am not referring to rigid dirigibles, such as the Zeppelins which have such a magnificent record in commercial service in Atlantic crossings, but to the smaller non-rigid, say up to a capacity of 400,000 cu. ft. or so, of the type which did such useful service during the last war, and would be wanted to perform exactly the same sort of service in the next.

Small non-rigids have one and only one very serious disadvantage as compared with an aeroplane—their speed is incomparably lower. On the other hand they have the important advantage for certain purposes of being able to stand still in the air and of having a much larger duration of flight than has any practical aeroplane. For service in which a top speed of, say, 50 knots is good enough, and for which long duration at low speeds is important, they are necessarily superior to any aeroplane.

Let us recall what some of these services were. In the first case there was the escorting of convoys through submarine infested areas. It is stated, and, I believe, uncontradicted, that no dirigible-escorted convoy ever lost a ship. This was due to the comparative ease with which a submarine could be spotted from above, to the fact that the dirigible could reduce its speed to that of the submarine, and could at the same time fly low over the water; hence the bombs could be planted with accuracy. Further, wireless enabled a number of armed surface ships to be summoned and their depth charges generally settled the business, if it was not finished by the original bombing. The dirigible could remain over the convoy even if the latter was proceeding at a speed of some 8 to 10 knots, and might easily be able to stay in the air under these conditions for three days. For this sort of service the aeroplane must take a back seat.

It is not certain how many submarines were directly destroyed by dirigibles in the last war, but an approximate number seems to be about thirty. This figure does not include submarines destroyed by surface ships called up by the dirigibles, many of which submarines might have existed much longer had it not been for the keen eyesight of the aerial observers. The number thus destroyed is unknown, but is much larger than the number sunk by direct dirigible attack.

It is obvious that non-rigids cannot operate in an area infested by enemy aeroplanes, though they would have a much better chance if it was found possible to inflate them with helium instead of hydrogen. They would certainly be provided with a defensive armament of machine guns so that attacks could not be made with impunity. Normally their sphere of action would be those parts of the sea which are far enough away from the enemy country to make aeroplane attack unlikely, but which, for this reason, would be used extensively by our merchant shipping.

Although at least three days' duration could be attained by a modern dirigible of the type referred to it would not be necessary for the ship to return to her base at the end of this time. War experiments have shown that it is quite easy to refuel airships, and even to change their crews, at sea. The procedure is quite simple. The dirigible flies slowly over the refuelling ship and lets down a line which is seized by those on board. The airship is then hauled down to a convenient height, when fuel can be hauled up in tins and emptied into the tanks. The crew can be changed in a similar manner, by means of a bo'sun's chair. It might even be possible to arrange for gas replenishment if the surface ship was especially equipped for this purpose, though for refuelling almost any ship could be used provided she possessed the necessary stores.

Aerial Listening-posts

Apart from these uses, which were well tried out in the war, it would appear that non-rigid dirigibles might be of considerable use in the defence of a country against hostile air attack, especially at night. For this purpose the airship would be fitted with a listening apparatus similar to those used on land, and would be sent up above any clouds to some determined location, where she would stop her engines, drift and listen. This would have the important advantage of giving earlier warning of approaching aircraft than could be given by any other method, as the airship could operate well over the sea and as near to the enemy coast as was considered advisable. Drifting with the wind, and in constant wireless communication with the ground, she would have her position always, and information of the bearing and height of an approaching squadron, or even several bearings which might allow its approximate course and speed to be plotted would be invaluable to the defence, especially in view of the fact that the information would be available much sooner than it would be obtained by any other method. Minutes are of supreme importance in the matter of defence against hostile aircraft.

Further, as the airship would be drifting along, having its course constantly plotted by wireless observers on the ground, the direction and velocity of the wind at height could be found easily, and this information would be of the utmost value to the anti-aircraft gunners and others.

The question of risk to the crew deserves some consideration. Normally, I should expect the airship to operate above a cloud, into which she could easily descend in emergency.